



Prepared for:

Public Hearing In Support of Application for  
Distribution and Marketing Permit

# COMPANY SNAPSHOT



FOUNDED IN 1986



850+ EMPLOYEES



OPERATING IN 34 STATES



SERVICES TO 600+  
MUNICIPAL & INDUSTRIAL  
WASTEWATER TREATMENT  
FACILITIES



HEADQUARTERED IN  
BALTIMORE, MD

# MARKETING EXCEPTIONAL QUALITY (EQ) BIOSOLIDS?

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Synagro annually distributes over 170,000 tons of heat dried biosolids from 13 different facilities

## ① Distribution is North America-wide

- Facilities from Massachusetts to Hawaii; Ontario, Canada to Florida

## ① Existing and Market Distribution Channels

- Fertilizer Manufacturing – as component of blended specialty, retail products
- Direct Distribution– agriculture, forestry
- Renewable energy resource-- cement kiln, power plants

## ① Full-time professional product marketing and sales staff, supported by Compliance, Legal and Financial staffs.



# PHILADELPHIA RENEWABLE BIO-FUELS FACILITY (PRBF)

- Operational since 2012; annually produces ~55,000 tons of Granulite® fertilizer

## 2019 PRBF Granulite distribution

State	%Total
PA	57%
MD	42%
FL	1%
NY	<1%

Use	% Total
Ag	69%
Soil Blender	22%
Fertilizer Blender	6%
Turf/Golf	1%





# HOW DOES PRBF GRANULITE TEST FOR QUALITY?

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## Sampling plan – using certified third-party laboratories

- Grab sample collected every three hours running trains. Grab sample used to form a 5 day monthly composite sample.
  - Subsamples tested for pollutants, primary, secondary, and micronutrients as well as PCB's
- For Class A pathogen reduction:
  - Monthly, 7 samples obtained and submitted for fecal coliform.
  - Product temperatures recorded every 3 hours (every 2 hours for DE permit).
- For Vector Attraction Reduction (% solids)
  - Data from monthly composites used for regulatory purposes.
  - On-site testing used for operational control



# HOW DOES PRBF GRANULITE MEET EQ STANDARDS?

## Class A pathogen reduction – Alternative 5: Biosolids Treated in a Processes to Further Reduce Pathogens

- *Dewatered cake dried by direct contact with hot gases, and moisture content is reduced to 10 percent or lower. Particles reach temperatures well in excess of 176°F or the wet bulb temperature of the gas stream in contact with the sludge at the point where it leaves the dryer is in excess of 176°C.*
- Dried product (which already met Class A) is mixed with incoming cake – each pellet is 2/3 recycled Class A product.
- Heated air at 850°F to 950°F carries the biosolids thru the rotating drum, evaporates water and produces a dry hard pellet.
- Thermocouples at the discharge end of the drying drum regulate the burner to maintain a consistent exit air temperature.



# HOW DOES PRBF GRANULITE MEET EQ STANDARDS?

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## Vector attraction reduction – 40 CFR 503.33 (b) Option 7/8

- *Because inbound solids do not contain unstabilized solids generated in a primary wastewater treatment process, Vector Attraction Reduction (VAR) requirements are achieved by drying the biosolids to at least 75% concurrently with or after Class A pathogen reduction step (Option 7).*
- However, because monthly composite testing confirm product  $\geq 90\%$  solids to comply with Class A pathogen reduction, PRBF also meets VAR through Option 8.



# HOW DOES PRBF GRANULITE MEET EQ STANDARDS?

## Regulated Pollutants – 40 CFR 503.13 (a) Table 3

Pollutant	Table 3 limit (mg/kg)	PRBF avg (mg/kg)
Arsenic	41	13.6
Cadmium	39	3.89
Copper	1500	562
Chromium	1200	88.4
Lead	300	100
Mercury	17	0.475
Molybdenum	18	11.48
Nickel	420	31.8
Selenium	36	5.35
Zinc	2800	1140

Data average of 28 monthly samples from 6/2017-6/2019, inclusive.





# HOW WILL WE DISTRIBUTE GRANULITE?

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Several outlets – anticipate ~ 2% of PRBF production

- Initial interest from fertilizer manufacturers to whom we already sell product
- Agricultural end users – many of whom also farm in Maryland.
- Bagged retail (similar as Milorganite).
- Golf course/grounds maintenance.



# THANK YOU!

For additional information or to visit the PRBF contact:

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